

Customer No.: 31561
Application No.: 10/604,822
Docket No.: 11259-US-PA

REMARKS

This is a full and timely response to the outstanding nonfinal Office Action mailed Nov. 16, 2005. Reconsideration and allowance of the application and presently pending claims 1-11 as originally filed are respectfully requested.

Present Status of the Application

The Office Action rejected claims 1, 2 and 4 under 35 U.S.C. 103(a) as being unpatentable over Asao et al. (US Patent 6,809,717) in view of Watanabe (JP 11-109317). The Office Action also rejected claim 3 under 35 U.S.C. 103(a) as being unpatentable over Asao et al. (US Patent 6,809,717) and Watanabe (JP 11-109317) as applied to claim 1, and further in view of Kori et al. (Pub. No.: US 2004/0071363). The Office Action further rejected claims 5, 6, and 8-11 under 35 U.S.C. 103(a) as being unpatentable over Asao et al. (US Patent 6,809,717) in view of Watanabe (JP 11-109317) and Lin (US Patent 6,674,914). The Office Action still rejected claim 7 under 35 U.S.C. 103(a) as being unpatentable over Asao et al. (US Patent 6,809,717), Lin and Watanabe as applied to claim 5, and further in view of Kori et al. et al. (Pub. No.: US 2004/0071363).

Discussion of Office Action Rejections

The Office Action rejected claims 1, 2 and 4 under 35 U.S.C. 103(a) as being unpatentable over Asao et al. (US Patent 6,809,717) in view of Watanabe (JP 11-109317).

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In response to the rejection to claim 1 under 35 U.S.C. 103(a) as being unpatentable over Asao et al. (US Patent 6,809,717) in view of Watanabe (JP 11-109317), Applicant hereby traverses the rejection and submits that the present invention as set forth in claim 1 is neither taught, disclosed, nor suggested by Asao et al. (US Patent 6,809,717) and Watanabe (JP 11-109317) or any other cited references, taken alone or in combination.

With respect to claim 1, as originally filed, recites in part:
A driving method of a Liquid Crystal Display (LCD)... comprising the steps of:
...adjusting a grayscale value Xa of each pixel to a mapping grayscale value Xb, and driving each of the pixels with the grayscale value Xb accordingly.

Applicant submits that the Examiner fails to establish a *prima facie* obviousness of the present invention as set forth in claim 1, because neither Asao et al. (US Patent 6,809,717) nor Watanabe (JP 11-109317) teaches or suggests the claim limitation as "adjusting a grayscale value Xa of each pixel to a mapping grayscale value Xb, and driving each of the pixels with the grayscale value Xb accordingly" that is required for the present method as set forth in claim 1 (emphasis added). *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Asao teaches "the color light source 101 is turned on at a first illuminance in a subsequent second sub-field period 2F and at a second illuminance lower than the first illuminance but larger than zero in a third sub-field period 3F, thus attaining a transmitted light quantity Tx in the second sub-field period 2F and a transmitted light quantity Ty in the third sub-field period 3F, respectively" (Column 9, lines 21-28, FIG. 21). Such light quantities Tx and Ty are independently set for different sub-field periods. Therefore, there is no mapping relationship

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between them. Therefore, Applicant submits that the combination of Asao et al. (US Patent 6,809,717) and Watanabe (JP 11-109317) do not render the driving method of a Liquid Crystal Display as set forth in claim 1 obvious, and the present invention as set forth in claim 1 should be allowable.

With respect to claim 2, as originally filed, recites in part:

...a mapping correlation between the grayscale value X_a and the grayscale value X_b is linear, and the correlation is performed as $X_b = (X_a / X) \times N$.

In response to the rejection of claim 2 under 35 U.S.C. 103(a) as being unpatentable over Asao et al. (US Patent 6,809,717) in view of Watanabe (JP 11-109317), Applicant hereby traverses the rejection and submits that the present invention as set forth in claim 1 is neither taught, disclosed, nor suggested by Asao et al. (US Patent 6,809,717) and Watanabe (JP 11-109317) or any other cited references, taken alone or in combination.

It can be known from Asao et al. (US Patent 6,809,717) that $T_x(R)$, $T_y(R)$ together with zero are three necessary light quantity levels respectively corresponding to three sub-fields (FIG. 21, from Column 8, line 43 to Column 9, line 42). There is no mapping correlation between each two of them, no matter linear or nonlinear. In another hand, Asao suggests "in the (liquid crystal) display device, the lower (second) luminance in the second operation may preferably be at most 1/5 of the higher (first) luminance in the first operation" (Column 7, lines 43-45). One of ordinary skill in the art should understand that the suggested "1/5" is for defining a preferred value range of the lower luminance in the second operation

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rather than a coefficient for mapping not the first luminance to the second one. Since neither Asao et al. (US Patent 6,809,717) nor Watanabe (JP 11-109317), has taught, disclosed, or suggested the mapping correlation that is required for the present invention as set forth in claim 2, claim 2 should not be considered as obvious under the combination of Asao et al. (US Patent 6,809,717) and Watanabe (JP 11-109317), and thus should be allowable.

If independent claim 1 is allowable over the prior art of record, then its dependent claim 4 is allowable as a matter of law, because these dependent claims contain all features of their respective independent claim 1. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988).

The Office Action also rejected claim 3 under 35 U.S.C. 103(a) as being unpatentable over Asao et al. (US Patent 6,809,717) and Watanabe (JP 11-109317) as applied to claim 1, and further in view of Kori et al. (Pub. No.: US 2004/0071363).

With respect to claim 3, as originally filed, recites in part:
...the mapping correlation between the grayscale value Xa and the grayscale value Xb is nonlinear.

According to the foregoing reasons as set forth above, there is no mapping correlation between the grayscale value Xa and the grayscale value Xb disclosed by either Asao et al. (US Patent 6,809,717) or Watanabe (JP 11-109317). Although Kouri et al. teaches a linear or nonlinear grayscale mapping, there is no teaching, suggestion or motivation to combine or modify the teachings of the cited references, thus the combination can not rendered the

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present invention as set forth in claim 3 obvious. *In re Kotzab*, 217 F. 3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). Further, even though Kouri teaches a linear or nonlinear grayscale mapping in order to improve signal, there is no expectation of success to combine Kouri et al. with Asao et al. (US Patent 6,809,717) and Watanabe (JP 11-109317), because Tx and Ty are independent set respectively corresponding to different sub-fields. Thus the combination of the cited references above will not rendered the present invention as set forth in claim 3 a *Prima Facie* Case of Obviousness. MPEP 2143.

The Office Action further rejected claims 5, 6, and 8-11 under 35 U.S.C. 103(a) as being unpatentable over Asao et al. (US Patent 6,809,717) in view of Watanabe (JP 11-109317) and Lin (US Patent 6,674,914).

With respect to claim 5, as originally filed, recites in part:

A driving method ... comprising the steps of:

...adjusting a grayscale value Xa of each pixel to a mapping grayscale value Xb, and driving each of the pixels with the grayscale value Xb accordingly.

Applicant submits that such a driving method as set forth in claim 5 is neither taught, disclosed, nor suggested by Asao et al. (US Patent 6,809,717), Watanabe (JP 11-109317), Lin (US Patent 6,674,914) or any of the other cited references, taken alone or in combination.

As discussed above, there is no mapping correlation between, linear or nonlinear, between the grayscale value Xa and the grayscale value Xb disclosed by Asao et al. (US Patent 6,809,717), Watanabe (JP 11-109317) or Lin (US Patent 6,674,914), taken alone or in

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combination. Therefore, the cited prior art references failed to teach or suggest all the claim limitations. Thus the present invention as set forth in claim 5 should be allowable. MPEP 2143.

If independent claim 5 is allowable over the prior art of record, then its dependent claims 6-11 are allowable as a matter of law, because these dependent claims contain all features of their respective independent claim 1. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988).

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CONCLUSION

For at least the foregoing reasons, it is believed that the pending claims 1-11 are in proper condition for allowance and an action to such effect is earnestly solicited. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

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